AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereafter. [Use ~~strikethrough~~ for deleted matter and underlined for added matter.]

1. (Original) A system for reducing undesirable signals in a communication network, comprising:

means for compensating, said compensating means providing capacitance;

means for connecting said compensating means to a pair of conductors selected from a plurality of conductors; and

means for selectively actuating said compensating means such that said compensating means, when actuated by said actuating means, reduces an undesirable crosstalk signal caused by a mismatch between a plurality of mutual capacitive couplings associated with said plurality of conductors.

2. (Original) The system of claim 1, wherein said compensating means comprises a compensating capacitive device, wherein said actuating means actuates said compensating capacitive device such that said compensating capacitive device is connected in parallel with said pair of conductors to reduce said mismatch.

3. (Original) The system of claim 2, wherein said compensating means comprises a plurality of compensating capacitive devices, wherein said means for selectively actuating selects two or more of said plurality of compensating capacitive devices such that said selected compensating capacitive devices are connected in parallel with said pair of conductors to reduce said mismatch.

4. (Original) The system of claim 3, wherein at least one of said plurality of compensating capacitive devices is a capacitor.

5. (Original) The system of claim 3, wherein at least one of said plurality of compensating capacitive devices is a varactor.

6. (Original) The system of claim 3, further comprising a means for detection wherein said detection means detects said mismatch, and further comprising a means for determination, wherein said determination means instructs said actuating means such that said mismatch is reduced.

7. (Original) The system of claim 6, wherein said mismatch is reduced to at least a predefined threshold.

8. (Original) The system of claim 2, further comprising a second means for compensating, said second compensating means connected to a second pair of conductors selected from said plurality of conductors by said connecting means, such that when said second compensation means is actuated by said actuating means, said second compensation means reduces said undesirable crosstalk signal caused by a second mismatch between a plurality of mutual capacitive couplings associated with said plurality of conductors.

9. (Original) The system of claim 8, wherein said second compensating means comprises a second compensating capacitive device, wherein said actuating means actuates said second compensating capacitive device such that said second compensating capacitive device is connected in parallel with said second one pair of conductors to reduce said second mismatch.

10. (Original) The system of claim 9, wherein said second compensating means comprises a second plurality of compensating capacitive devices, wherein said actuating means selects two or more of said second plurality of compensating capacitive devices such that said selected compensating capacitive devices are connected in parallel with said second pair of conductors to reduce said second mismatch.

11. (Original) The system of claim 10, wherein at least one of said second plurality of compensating capacitive devices is a capacitor.

12. (Original) The system of claim 10, wherein at least one of said second plurality of compensating capacitive devices is a varactor.

13. (Original) The system of claim 10, further comprising a means for detection wherein said detection means detects said second mismatch, and further comprising a means for determination, wherein said determination means instructs said actuating means such that said second mismatch is reduced.

14. (Original) The system of claim 13, wherein said second mismatch is reduced to at least a second predefined threshold.

15. (Original) The system of claim 8, further comprising a third means for compensating, said third compensating means connected to a third pair of conductors selected from said plurality of conductors by said connecting means, such that when said third compensation means is actuated by said actuating means, said third compensation means reduces said undesirable crosstalk signal caused by a third mismatch between a plurality of mutual capacitive couplings associated with said plurality of conductors.

16. (Original) The system of claim 15, wherein said third compensating means comprises a third compensating capacitive device, wherein said actuating means actuates said third compensating capacitive device such that said third compensating capacitive device is connected in parallel with said third one pair of conductors to reduce said third mismatch.

17. (Original) The system of claim 16, wherein said third compensating means comprises a third plurality of compensating capacitive devices, wherein said actuating means selects two or more of said third plurality of compensating capacitive devices such that said selected compensating capacitive devices are connected in parallel with said third pair of conductors to reduce said third mismatch.

18. (Original) The system of claim 17, wherein at least one of said third plurality of compensating capacitive devices is a capacitor.

19. (Original) The system of claim 17, wherein at least one of said third plurality of compensating capacitive devices is a varactor.

20. (Original) The system of claim 17, further comprising a means for detection wherein said detection means detects said third mismatch, and further comprising a means for determination, wherein said determination means instructs said actuating means such that said third mismatch is reduced.

21. (Original) The system of claim 20, wherein said third mismatch is reduced to at least a third predefined threshold.

22. (Original) The system of claim 20, wherein said means for determination determines instructions to instruct said actuating means to concurrently reduce said mismatch, said second mismatch, said third mismatch and a fourth mismatch, said fourth mismatch arising between a plurality of mutual capacitive couplings associated with said plurality of conductors.

23. (Original) The system of claim 1, further comprising:

a plurality of means for compensating;

means for detecting, such that said detecting means detects a plurality of mismatches arising between a plurality of conductors; and

means for determination, wherein said determination means instructs said actuating means to actuate said plurality of compensating means such that said plurality of mismatches are reduced.

24. (Original) The system of claim 23, wherein said plurality of mismatches are compensated to zero.

25. (Original) The system of claim 1, further comprising:

more than four means for compensating;

means for detecting, such that said detecting means detects more than four mismatches arising between a plurality of conductors; and

means for determination, wherein said determination means instructs said actuating means to actuate said more than four compensating means such that said more than four mismatches are reduced.

26. (Original) The system of claim 1, wherein said means for compensating comprises more than four compensating capacitive devices, and further comprising:

means for detecting, such that said detecting means detects more than four mismatches arising between a plurality of conductors; and

means for determination, wherein said determination means instructs said actuating means to actuate at least four of said compensating capacitive devices such that said more than four mismatches are reduced.

27. (Original) The system of claim 26, wherein at least one of said four compensating capacitive devices is a capacitor.

28. (Original) The system of claim 26, wherein at least one of said four compensating capacitive devices is a varactor.

29. (Original) The system of claim 1, wherein said plurality of conductors are subscriber loops carrying a plurality of communication signals, and wherein said plurality of communication signals are transmitting at substantially the same frequency.

30. (Original) The system of claim 1, wherein said mismatches between said plurality of mutual capacitive coupling means are produced in a customer premises wiring system.

31. (Original) The system of claim 2, wherein said compensating means further includes a compensating resistive element residing in at least one of said plurality of compensating capacitive devices.

32. (Original) The system of claim 2, wherein said compensating means further includes a compensating inductive element residing in at least one of said plurality of compensating capacitive devices.

33. (Currently Amended) A system for reducing undesirable signals in a communication network, comprising:

a plurality of compensating capacitive devices; ~~and~~

a plurality of switches, each uniquely ~~switch~~ coupled to one of said capacitive ~~device,~~ devices; and

a processor controlling said switches,

such that when at least one of said switches are ~~said switch is~~ actuated by said processor, said corresponding compensating capacitive device is connected between two conductors of a four conductor system, such that said compensating capacitive device reduces an undesirable crosstalk signal caused by a first mismatch between a plurality of mutual capacitive couplings associated with said four conductor system.

34. (Original) The system of claim 33, wherein at least one of said plurality of compensating capacitive devices is a capacitor.

35. (Original) The system of claim 33, wherein at least one of said plurality of compensating capacitive devices is a varactor.

36. (Original) The system of claim 33, wherein said undesirable crosstalk signal is reduced to a predefined threshold.

37. (Original) A system which reduces undesirable signals in a communication network, comprising:

at least one compensating capacitive group;

a plurality of compensating capacitive devices residing in each one of said at least one compensating capacitive group; and

a plurality of compensating capacitive device switches, such that one of said plurality of compensating capacitive device switches is coupled to each one of said plurality of compensating capacitive devices,

wherein said at least one compensating capacitive group is selectively connected in parallel with at least one pair of conductors selected from said plurality of parallel conductors, and wherein one of said at least one compensating capacitive device switches is actuated such that at least one of said plurality of compensating capacitive devices is switched such that a first mismatch between a plurality of mutual capacitive couplings associated with said plurality of conductors is reduced.

38. (Original) The system of claim 37, wherein at least one of said plurality of compensating capacitive devices is a capacitor.

39. (Original) The system of claim 37, wherein at least one of said plurality of compensating capacitive devices is a varactor.

40. (Original) The system of claim 37, further comprising a plurality of line switches coupled to said at least one compensating capacitive device group such that said at least one compensating capacitive group is selectively connected to said pair of conductors.

41. (Original) The system of claim 40, further comprising a processor such that said processor processes at least one line switching instruction and configures each one of said line switches according to said at least one line switching instruction.

42. (Original) The system of claim 41, further comprising a detector configured to detect said at least one mismatch and configured to transmit data corresponding to said at least one mismatch to said processor, and wherein said processor determines said at least one line switching instruction.

43. (Original) The system of claim 37, further comprising a processor such that said processor processes at least one compensating capacitive device switching instruction and configures each one of said compensating capacitive device switches according to said at least one compensating capacitive device switching instruction.

44. (Original) The system of claim 43, further comprising a detector configured to detect said at least one mismatch and configured to transmit data corresponding to said at least one mismatch to said processor, and wherein said processor determines said at least one compensating capacitive device switching instruction.

45. (Original) The system of claim 37, wherein said communication network is a subscriber loop communication network transmitting a plurality of digital data signals over a plurality of subscriber loops.

46. (Original) The system of claim 45, wherein said plurality of digital data signals are transmitted at substantially the same frequency.

47. (Original) The system of claim 37, wherein said at least one mismatch is produced in a customer premises wiring system.

48. (Original) A method which reduces undesirable signals in a communication network, comprising the steps of:

connecting a compensating capacitive device group to a pair of conductors selected from said plurality of conductors;

detecting a mismatch between said plurality of mutual coupling capacitances;

selecting at least one compensating capacitive device residing in said compensating capacitive device group; and

switching said at least one compensating capacitive device such that said at least one compensating capacitive device is connected in parallel with said pair of conductors such that said mismatch is reduced.

49. (Original) The system of claim 48, wherein at least one of said plurality of compensating capacitive devices is a capacitor.

50. (Original) The system of claim 48, wherein at least one of said plurality of compensating capacitive devices is a varactor.

51. (Original) The method of claim 48, wherein said mismatch is reduced to at least a predefined threshold.

52. (Original) The method of claim 48, future including the steps of:

connecting a second compensating capacitive device group to a second pair of conductors selected from said plurality of conductors;

detecting a second mismatch between said plurality of mutual coupling capacitances;

selecting at least one compensating capacitive device residing in said second compensating capacitive device group; and

switching said at least one compensating capacitive device residing in said second compensating capacitive device group such that said at least one compensating capacitive device residing in said second compensating capacitive device group is connected in parallel with said second pair of conductors such that said second mismatch is reduced.

53. (Original) The system of claim 52, wherein at least one of said plurality of compensating capacitive devices is a capacitor.

54. (Original) The system of claim 52, wherein at least one of said plurality of compensating capacitive devices is a varactor.

55. (Original) The method of claim 52, wherein said second mismatch is reduced to at least a second predefined threshold.

56. (Original) The method of claim 48, future including the steps of:

connecting a third compensating capacitive device group to a third pair of conductors selected from said plurality of conductors;

detecting a third mismatch between said plurality of mutual coupling capacitances;

selecting at least one compensating capacitive device residing in said third compensating capacitive device group; and

switching said at least one compensating capacitive device residing in said third compensating capacitive device group such that said at least one compensating capacitive device residing in said third compensating capacitive device group is connected in parallel with said third pair of conductors such that said third mismatch is reduced.

57. (Original) The system of claim 56, wherein at least one of said plurality of compensating capacitive devices is a capacitor.

58. (Original) The system of claim 56, wherein at least one of said plurality of compensating capacitive devices is a varactor.

59. (Original) The method of claim 56, wherein said third mismatch is reduced to at least a third predefined threshold.

60. (Original) The method of claim 56, wherein the steps of selecting and switching concurrently reduces said mismatch, said second mismatch, said third mismatch and a fourth mismatch, said fourth mismatch arising between a plurality of mutual capacitive couplings associated with said plurality of conductors.

61. (Original) The method of claim 60, wherein the selecting and switching concurrently zeros out said mismatch, said second mismatch, said third mismatch and a fourth mismatch, said fourth mismatch arising between a plurality of mutual capacitive couplings associated with said plurality of conductors.

62. (Original) A computer readable medium having a program which reduces undesirable signals in a communication network the program comprising logic configured to perform the steps of:

detecting a mismatch between said plurality of mutual coupling capacitances;

selecting at least one compensating capacitive device residing in a compensating capacitive device group; and

generating a switching instruction such that said at least one compensating capacitive device is connected in parallel with a pair of conductors such that said mismatch is reduced.

63. (Original) The computer readable medium of claim 62, further comprising logic configured to perform the steps of:

detecting a second mismatch between said plurality of mutual coupling capacitances;

selecting at least one compensating capacitive device residing in a second compensating capacitive device group; and

generating a switching instruction such that said at least one compensating capacitive device residing in said second compensating capacitive device group is connected in parallel with a second pair of conductors such that said second mismatch is reduced.

64. (Original) The computer readable medium of claim 62, further comprising logic configured to perform the steps of:

detecting a third mismatch between said plurality of mutual coupling capacitances;

selecting at least one compensating capacitive device residing in a third compensating capacitive device group; and

generating a switching instruction such that said at least one compensating capacitive device residing in said third compensating capacitive device group is connected in parallel with a third pair of conductors such that said third mismatch is reduced.

65. (Original) The computer readable medium of claim 62, further comprising logic configured to perform the steps of selecting and generating concurrently reduces said mismatch, said second mismatch, said third mismatch and a fourth mismatch, said fourth mismatch arising between a plurality of mutual capacitive couplings associated with said plurality of conductors.